

Unix machines.

Multicasting is implemented, allowing those whose networks support the facility to create multi-party discussion groups to which users can subscribe and drop at will. For those without access to Multicasting, a rudimentary Broadcast capability allows transmission of an audio feed to multiple hosts on a fast local network.

Hardware and software requirements

In order to use *Speak Freely*, you need a personal computer with the following hardware and software:

- ☐ Microsoft Windows 95 or NT 3.51 or later
- ☐ Sound input/output card with Windows Multimedia driver
- ☐ Microphone and speaker(s) compatible with sound card
- ☐ Network interface with TCP/IP WINSOCK driver

Sending real-time audio over a data network is demanding on every component in the chain, and the performance required of your computer and network interact in complicated ways. For example, if you're communicating exclusively with other people over a high-speed local network and you aren't worried about eavesdropping, you don't need to enable either compression or encryption, both of which require a great deal of computation. For such an application a 386 machine is perfectly adequate. If your network link is slower, you'll have to compress the sound before it's transmitted. The most effective form of compression provided by *Speak Freely*, that used by GSM digital cellular telephones, reduces the data bandwidth requirement by almost a factor of five but is so computationally intense it can be done in real time only on a very fast 486 or Pentium machine. Encryption also takes time; the three methods available vary in the computation required. Compression reduces encryption overhead since there's less to encrypt.

Whether *Speak Freely* will work effectively for you depends upon your CPU speed, network bandwidth, load on the network, and the compression and encryption modes you select in a complicated and subtle manner. The best way to find out is to try it; if it works, great; if it doesn't, try again when you next upgrade your computer or network connection. *Speak Freely* provides a built-in performance benchmark to assist you in selecting modes appropriate for your computer. You can experiment to determine which settings work best by connecting to an echo server which returns any sound you send to it after a 10 second delay.



by John Walker
kelvin@fourmilab.ch
April 19, 1996

Netscape Helps Make Talk Cheap

Voice transmission on Net gets easier

By David Einstein
Chronicle Staff Writer

To place or receive an Internet phone call, users need a multimedia personal computer with a suitable sound card. The PC at the receiving end must be similarly equipped, must be running the Netscape software and be connected to the Internet.

When a call comes in, the person at the receiving end will be alerted by a phone-like ringing or a flashing icon on the screen.

Conversations can be held either through a headset or with a microphone and the PC's speakers.

Officials at Netscape say the sound quality of the new technology rivals that of a regular telephone connection.

Industry experts believe that "free" phone service will be used at first mostly by companies that rely on the Internet for internal communications. Consumers are expected to follow as PCs become communication and entertainment centers in more homes.

A shift toward Internet-based telephone calls could cause a major problem for traditional long-distance carriers such as AT&T, MCI and Sprint. The issue already

NETSCAPE: Page A13 Col. 4

New software from Internet pioneer Netscape Communications is about to turn cyberspace into a telephone system that would let personal computer users hold long-distance conversations for the price of a local call.

Software that makes it possible to transmit the human voice over the Net has been available for several months. The concept has been slow to catch on, however, because it requires parties at both ends of a conversation to have the same software.

The entry of Netscape's CoolTalk telephony technology changes the situation dramatically. The Mountain View company's Internet software — the Netscape Navigator browser for the World Wide Web — is used by more than 20 million people worldwide. Netscape commands more than three-fourths of the global market for Web browsers — a huge base for an Internet phone system.

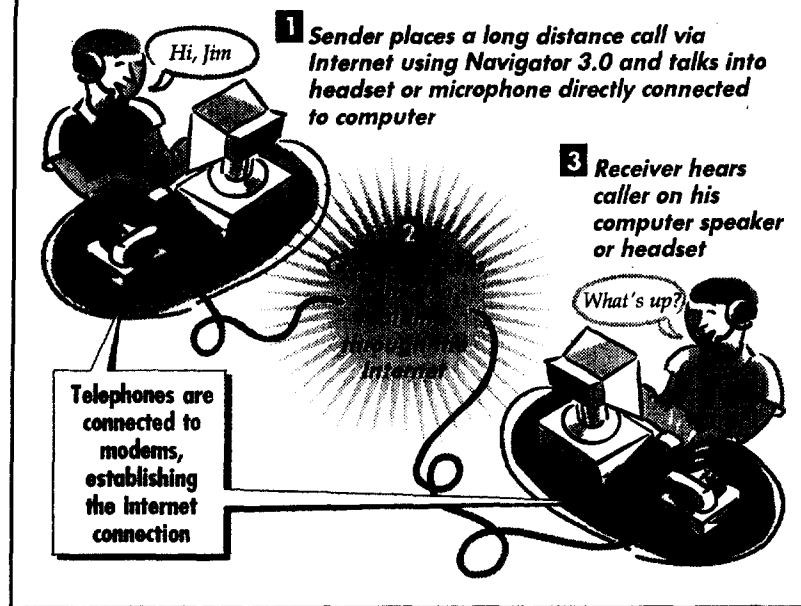
Technology capable of turning the Net into a virtual Ma Bell is included in the next version of the Netscape Navigator, which will be announced Monday.

Microsoft, the software giant that owns most of the rest of the browser market, also plans to offer telephony software as an add-on to its browser, the Internet Explorer.

Both Netscape and Microsoft have enlarged the market for browser software by giving it away free on the Internet. A testing version of the newest Netscape Navigator will be available Monday at the company's Web site at <http://home.netscape.com>.

LOCAL CALLS NOW TRAVEL FAR

The next version of Netscape's popular World Wide Web browser will make it possible to place telephone calls anywhere in the world using the Internet. All you will need will be a multimedia PC equipped with a modem, an account with an Internet access provider, and the new Netscape Navigator 3.0 software.



BY JOHN BLANCHARD / THE CHRONICLE

NETSCAPE: Phone Call Software

From Page 1

has fueled a debate over whether the government has the right or responsibility to regulate communications on the Net.

Recently, a group of smaller long-distance carriers petitioned the Federal Communications Commission to prevent use of the Internet for free phone calls, saying it would undermine the very foundation of the long-distance business.

"What we are seeing is the Internet encroaching upon the telephone networks as we know them," said Neil Weintraut, a research analyst with Hambrecht & Quist. He also said that the new medium will put pressure on "existing legal and regulatory structures that were devised at a time when even the concept of the In-

ternet didn't exist."

Officials at AT&T professed no surprise at Netscape's move, and said they hope to take advantage of the new technology themselves to boost their fledgling Internet access business.

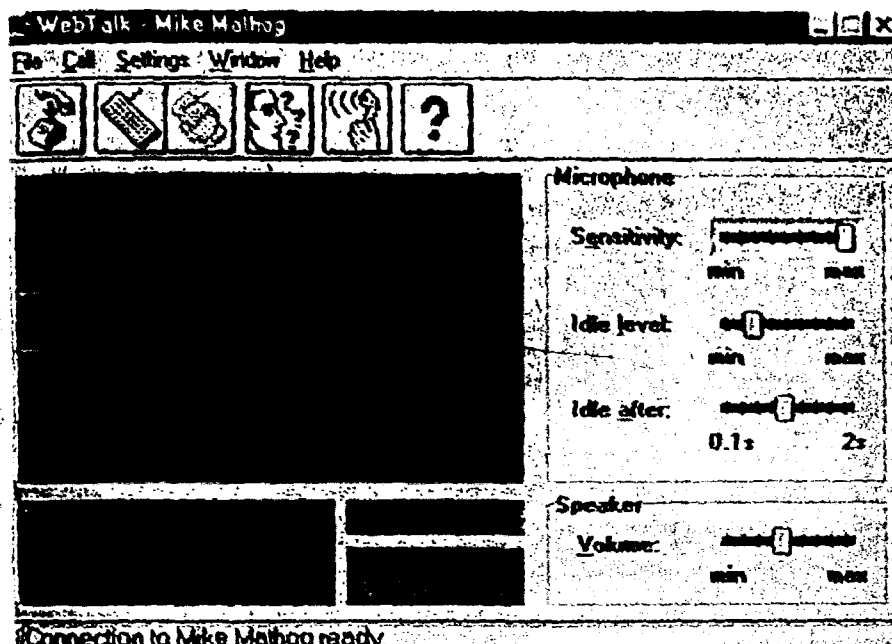
"We've felt for a while now that voice and telephony (on the Internet) represent a potentially large opportunity for us," said AT&T spokesman Mike Miller.

He said the Internet will not replace the telephone. "People are still going to find a lot of uses for traditional telephony in terms of security and reliability," he said.

Weintraut agreed. "The Internet has become relatively ubiquitous, but clearly telephones are even more so," he said. "The use of the telephone will continue for a very long time."

San Francisco Chronicle

4/27/96



Quarterdeck offers WebTalk for long-distance calls.

BOSTON GLOBE -- 3/10/96

Ring in the new 'Net users find long-distance talk is cheap

By Hiawatha Bray
GLOBE STAFF

In the 1970s, some clever pranksters learned how to make free long-distance phone calls by using what were called "blue boxes" to produce fake dialing tones.

Today, it's beige boxes — desktop computers — that have the phone companies apoplectic about people getting free long-distance service. This time the "pranksters" are computer users and what they are doing is perfectly legal, so far.

Outfitted with inexpensive software, any computer can bypass the phone company and send voice messages over the Internet, at almost no cost. More than a dozen com-

panies now make this Web-phone software. While most packages are priced between \$50 to \$60, some programs are available for free over the Internet.

With an Internet account, a sound card, speakers and a microphone, computer users can make calls around the world without paying long-distance rates. All that's needed is the right software and assurance that the person on the other end has the same software.

While the sound quality is vastly inferior to conventional phones and the computer networks are prone to long delays and bugs, more than 20,000 people now regularly use the Internet for the long-distance dialing,

INTERNET, Page 83

'Net users finding long-distance talk is cheap

■ INTERNET

Continued from page 79

according to International Data Corp., a Framingham computer consulting company. And the market is expected to grow significantly this year as more software becomes available.

But a group of phone companies want federal authorities to regulate the practice.

Last week, a group called America's Carriers Telecommunication Association (ACTA) filed a petition with the Federal Communications Commission demanding that Internet telephone services be subject to the same regulations as other long-distance phone companies. ACTA also asked the FCC to halt the sale of Internet telephone software until a way of regulating it can be devised.

ACTA represents about 130 long-distance carriers. Most of ACTA's members are "resellers," small companies that buy long-distance services at wholesale from major companies like AT&T or Sprint and then sell the services to the public at retail prices. But one ACTA member, LDDS WorldCom of Jackson, Miss., operates the nation's fourth-largest long-distance network, after AT&T, MCI and Sprint.

Charles Helein, ACTA's general counsel, speaks of Internet telephone software with barely-concealed anger. "It's time to get a hold of this now," Helein said. "I want these guys stopped from selling il-

legal telecommunication service."

Helein noted that ACTA member companies must comply with state and federal regulations in order to provide long-distance service and that they must set rates that pay for the maintenance of the nation's telephone infrastructure.

Helein argued that if Internet telephone service becomes widespread, it will lead to big reductions in the revenues of long-distance companies. That will result in an overall decline in the quality of telephone service for all Americans. "The government is not going to sit still ... and see that kind of dislocation go by, because somebody wants to get free phone calls on their computers," Helein said.

ACTA has no official position on the best way to solve the problem. Helein suggested one solution: Require the makers of Internet software to be regulated as if they were telephone companies. They'd have to file rate plans and bill customers for the time they spent making phone calls on the Internet.

Of course, the makers of Internet telephone software see things differently. "Are we hurting their ability to charge you \$10 for a long-distance phone call? Tough bananas," said Harvey Kaufman, vice president of NetSpeak Corp. in Boca Raton, Fla.

NetSpeak makes WebPhone, a product that lets one user call another simply by typing in an e-mail address. Kaufman said his product is

aimed at corporate users who want to talk as they exchange data over the Internet. "Their concern over this is ridiculous, because this is not going to replace the conventional telephone."

Indeed, there is good reason to doubt that Internet telephone software will ruin long-distance companies anytime soon. For one thing, none of the major Internet telephone products are compatible with each other. You can only use WebPhone if the person you're calling also uses WebPhone.

More important, Internet telephone products are still constrained by the basic design of the Internet, a system that was never meant to handle phone calls.

All data going over the Internet are divided into tiny digital "packets." Data can travel to its destination over thousands of possible paths, and each packet can take a different path. When the packets all reach their destination, the computer uses them to reassemble the message.

This "packet-switched" system means that if one part of the Internet breaks down, the rest will keep working. But it also means that data traveling over the Internet is often delayed by seconds, minutes or even hours. While such delays may be acceptable with electronic mail messages, phone calls are a different matter.

"Voice traffic obviously operates in real time," said Peter Pratt, director of telecommunications programs at Business Research Group in Newton. "It can only have the most limited delays in travel across the network before quality becomes seri-

ously degraded."

And delays are a way of life on the Internet, which routinely slows to a crawl on Friday afternoons or other busy periods. As a result, Pratt doubts that many business customers will trust their important voice communications to the Internet anytime soon.

IBM is somewhat more optimistic. The company said it will soon introduce its own Internet telephone product, making IBM the first world-class computer company to enter the market.

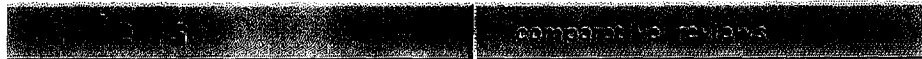
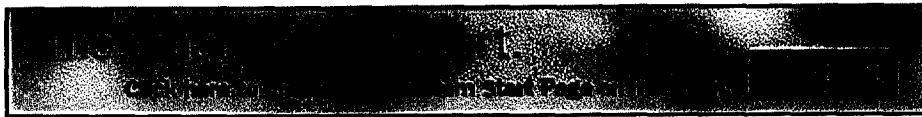
Meanwhile VocalTec Inc., perhaps the leading maker of Webphone software, upped the ante on Thursday when it said it would soon offer a product that allows users to place long-distance calls from one telephone to another using computer networks instead of telephone switches. What's more, the receiving telephone need not be equipped with VocalTec software.

And Netscape Communications Corp., which virtually owns the market for Internet browser software, says it will include Web-phone software from Texas-based Camelot Corp. in future releases of its software.

Despite the growth in calling over the Internet, large long-distance carriers have so far shown no concern.

"We don't have any issue with software providers," said MCI spokesman Jim Collins.

Nevertheless, ACTA will fight on. Helein admitted that the FCC may turn a deaf ear to the pleas of his members, but he vowed, "We're going to do our damndest to make them take action."



snapshot

WebTalk's superior sound quality, wide variety of audio settings, straightforward interface, and directory assistance make it the closest thing to a real telephone.

review



One of the few shipping products we received, WebTalk is an extremely usable package for PCs that can handle all types of connections. It earns our Buy It recommendation because of its superior sound quality. Our jury agrees that when listening over ISDN lines, using several different codecs and settings, WebTalk does a decent job--an impressive showing among these products. Over 28.8-kbps and 14.4-kbps connections, the sound is a bit warbly, but acceptable.

Because WebTalk ships with Quarterdeck's Mosaic Web browser and the widest array of codecs among the Web phones in this review, any user with a 14.4-kbps modem and some sort of SLIP or PPP connection can be up and talking fairly quickly. On the WebTalk home page you'll find a "sign-up sheet" with a listing of other active WebTalk users. Simply select a user from the list, and WebTalk rings that person.

go to screen shot

If you're calling someone who has never registered, you must type in his or her IP address. Once WebTalk establishes a successful connection, the user's name automatically appears on a list associated with the IP address so you can dial by name from then on. Aside from a quaint map of the world, which shows your location (along with that of any caller who feels like revealing where he or she is calling from), the user interface is completely straightforward. And unlike most of the Web phones we reviewed, WebTalk lets you resort to a chat window and type away if the audio connection fails.

In short, WebTalk is the Web phone to beat. It even comes with a microphone--not a great one, but it works. And, a Mac version is coming soon as well. If you can convince your friends or coworkers to buy it, too, WebTalk might actually make a viable alternative to AT&T and its rivals.



Downloading each 270K file on a 14.4-kbps modem should take about two minutes.

return to Web phone intro


facts

WebTalk

List price: \$50

Company: Quarterdeck; 800/354-3222

URL: <http://www.qdeck.com/qdeck/products/webtalk/>

 SilverSoft, proudly presents SoftFone.

A software phone for the internet. Now you can talk to anyone, anywhere over the INTERNET without worrying about the long distance phone charges and enjoy good phone quality sound.

Download an evaluation copy (279589 bytes) of SoftFone and enjoy talking to your friends and relatives around the world right now. With a full duplex sound card, you may talk while you are listening and enjoying a real telephone like conversation.

Features of SoftFone:

- o Multiple Calling Mechanisms
- o Full Duplex operation
- o Net Green
- o Built-in Answering machine
- o Enhanced sound quality
- o What You Hear is What You Get
- o Voice Activation
- o Variable rate compression
- o Connect to dynamic IP addresses
- o Voice mail capability
- o Mute and hold for Privacy
- o Hands Free talking even with half duplex sound cards
- o Powerful message menu system

Price of SoftFone is US\$19.95 or equivalent. For this price you get two licenses to use two SoftFones, so that you can share your copy with another person.

Drop us a mail at softfone@silver.com.pk

[Back to the opening page....](#)

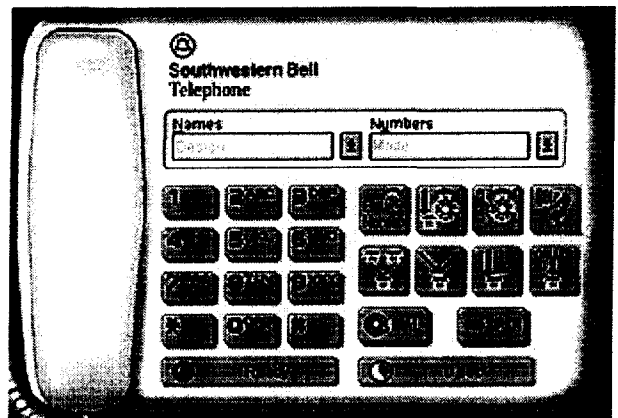
PC Phone Manager

Jump Start Your Customer Service with PC Phone Manager

PC Phone Manager is a software program that enables users to manage their calls more efficiently by allowing them to graphically recreate their phone on a computer screen. With PC Phone Manager, users can perform almost any phone function by pointing and clicking with their mouse.

The product is designed for small and home-based businesses, telecommuters, PC enthusiasts and busy households.

PC Phone Manager is unique because it integrates up to 17 of Southwestern Bell's popular call management services, such as Call Waiting, CallNotes and Caller ID, with traditional Computer Telephony Integration features including an automatic log of incoming and outgoing calls and an address book.



- The On-Screen Phone remembers and records every number you dial. So your phone book grows effortlessly. Even better, you can dial with a single click from any Windows application. You don't even need the number -- PC Phone Manager will look up any highlighted name instantly in your personal book.
- When you need a complete account of your calls just pull up the Call Log. You can get a detailed account of your calls including the name, number and duration of each call. Call Log also gives you up to 10 pages of space for notes!
- Do you need access to different applications for different categories of callers, and immediate hands-free access to records? Pop! gives you the power to customize how your computer reacts when the phone rings. Working with Caller ID, Pop! will open an application and bring up the record of the caller associated with the incoming Caller ID information.
- The Address Book in PC Phone Manager gives you an extremely versatile tool to manage all the contact information you need in one place.
- Change the graphic style of your phone - choose from several fun looks including Aspen, Stone Age, Standard, Hats, Football, Homelook and Roman!

For more information read the PC Phone Manager Fact Sheet, and look at the complete listing of options from Southwestern Bell. The ordering information you need is also right here.

| [Fact Sheet](#) | [Options](#) | [Ordering Information](#) | [Return to PC Phone Manager](#) | [Southwestern Bell Homepage](#) |



PC Phone Manager from Southwestern Bell

Fact Sheet

Overview

PC Phone Manager is new Windows-based, IBM-compatible computer telephony integration (CTI) software from Southwestern Bell. It essentially allows phone users to use their computer like a telephone and to perform almost any phone function on their computer screen by pointing and clicking the mouse.

It is available in Spanish and English and is priced at \$89.95 + \$6.95 shipping and handling.

When you dial a number in another country or time zone the time of the location you are calling appears on the screen. The database for this feature is programmed with thousands of cities around the world, and seven different kinds of daylight savings time.

When you need to call someone all you need to do is type in the first few letters of their first or last name. As soon as you have typed enough letters to identify a name uniquely in your database the name appears as you press Enter to dial. This also works in reverse, so when you need to identify a mystery phone number you just type it in to see the name of its owner.

Dial from any application by highlighting a name or number and clicking on the MiniDial icon.

Potential Users

PC Phone Manager is designed for small businesses and those who work at home and offers them ways to boost productivity, efficiency and customer service at a reasonable price. It also appeals to PC enthusiasts who are looking for a way to enhance their computers, and to integrate their phone with their PC.

The market for PC Phone Manager is estimated to be 1.8 million home offices and 375,000 small businesses in Southwestern Bell's five-state region.

System Requirements

486 DX or higher IBM-compatible computer (includes Pentium processors)
Eight mega-bytes of Random Access Memory (RAM)
10 mega-bytes of available hard drive space
Windows 3.1 or higher, or Windows 95
A dedicated telephone line (not PBX)

Product Features

PC Phone Manager includes a customized version of PhoneKITS, Algo Communications Corp.'s flagship CTI software suite. It also includes an external hardware dialer -- voted "1995 Product of the Year" by Computer Telephony magazine -- manufactured by Comdial Corp.

Compared to other CTI products, PC Phone Manager is unique in its ability to integrate traditional CTI software with popular optional call management services from Southwestern Bell such as Call Waiting.

Call Forwarding, Caller ID and CallNotes, and is easy to install.

| [Fact Sheet](#) | [Options](#) | [Ordering Information](#) | [Return to PC Phone Manager](#) | [Southwestern Bell
Homepage](#) |



PC Phone Manager from Southwestern Bell

PC Phone Options



Call Waiting

Alerts you with a special tone so you know there's an incoming call waiting when you're already on another call. You can put the first caller on hold and answer the second call. Call Waiting helps you better control your telephone by improving management of incoming calls and ensuring important phone calls will not be missed.

[Return to PC Phone Manager](#)



Call Forwarding

Call Forwarding increases productivity and controls incoming calls by directing all your calls to another number. When somebody dials your number, a phone at a different location of your choice rings instead, as though the caller had dialed that number rather than yours.

[Return to PC Phone Manager](#)



Selective Call Forwarding

Works like regular Call Forwarding except that only selected callers are forwarded. Selective Call Forwarding increases convenience and control of incoming calls by allowing calls from up to 10 numbers to be directed to another number.

[Return to PC Phone Manager](#)



Three-Way Calling

Connects you with two people in two different locations at the same time. Or, you can put one person on hold while calling another. Three-Way Calling saves time and increases office efficiency by quickly connecting three parties in different locations or by putting one person on hold while talking to another.

[Return to PC Phone Manager](#)

[Return to PC Phone Manager](#)



Anonymous Call Rejection (ACR)

Allows you to automatically reject all calls that have been marked anonymous, or blocked. With ACR, the telephone will not ring if the person calling you has blocked their Caller ID number through Per-call or Per-line Blocking. ACR is not available in every state. ACR increases peace of mind and improves the management of incoming calls by rejecting all calls marked anonymous, or blocked.

[Return to PC Phone Manager](#)



Call Blocker

Rejects calls from up to ten specific numbers. Even if you don't know the number, the last number that called you (a private entry) can be put on your list to prevent that number from reaching you again. Calls from numbers on your list hear a recorded message saying you're not accepting calls. Your phone doesn't even ring. Call Blocker ensures increased control, privacy, and security by preventing up to 10 different numbers from reaching you.

[Return to PC Phone Manager](#)



Caller ID - Calling Name & Calling Number Delivery

After the first ring and before the second, the phone company sends the number of the person calling you down the line in a format that your computer can detect. If you just have a regular phone line you need two things to receive this information:

- ☐ You need the phone company to transmit it to you;
- ☐ You need a Caller ID display unit. Southwestern Bell can provide the unit, or you can get it from a number of other vendors.

Your PC Phone Manager box detects and decodes the Caller ID information and displays it on your computer screen. Southwestern Bell will start to transmit the Caller ID information for each call you receive as soon as you subscribe to this feature.

If you have set your Call Log to "Log unanswered calls," you can see who called you even when you don't pick up the phone. If you also subscribe to CallNotes, you can see who may have left messages for you before you call to pick them up.

Caller ID quickly identifies the name and number of callers before you answer the phone; logs incoming calls whether a message is left or not; and screens calls from unwanted telephone solicitors or annoying callers.

[Return to PC Phone Manager](#)



Personalized Ring

Lets you know if the call should be answered and who should (or shouldn't) answer it, just by the ring. Personalized Ring increases convenience and peace of mind: safeguards against missing calls; and

screens calls by identifying callers with a distinctive ring or tone.

[Return to PC Phone Manager](#)



Priority Call

Identifies up to ten important callers (or those you want to screen) with a distinctive ring or tone. Priority Call increases convenience and peace of mind; safeguards against missing calls; and screens calls by identifying up to 10 numbers with a distinctive ring or tone.

[Return to PC Phone Manager](#)



CallNotes

CallNotes has all the benefits of a regular answering machine. You never need miss a call again. If for any reason you are unable or unwilling to answer your phone, the caller will hear your announcement and will be able to leave a message.

However, CallNotes is better than a regular answering machine. It takes messages even while you are on the phone, so your callers never hear a busy signal. You can add extra mailboxes, each with its own greeting and passcode, to separate your messages and keep them private. CallNotes can also call you with reminders about special events or even a wake-up call. With special delivery, CallNotes can notify your pager when you receive messages. And with CallNotes, you can pick up your messages from any touch-tone phone ... anytime, anywhere.

[Return to PC Phone Manager](#)



Auto Redial

Calls back the last number that you called. If the line is busy Auto Redial keeps trying for up to 30 minutes. When the line is free, Auto Redial signals you with a special ring and places the call for you. You can place or receive other calls while Auto Redial is at work. And, you can have Auto Redial calling back more than one number at a time. Auto Redial maximizes efficiency by allowing you to continue other tasks while you wait for an open line.

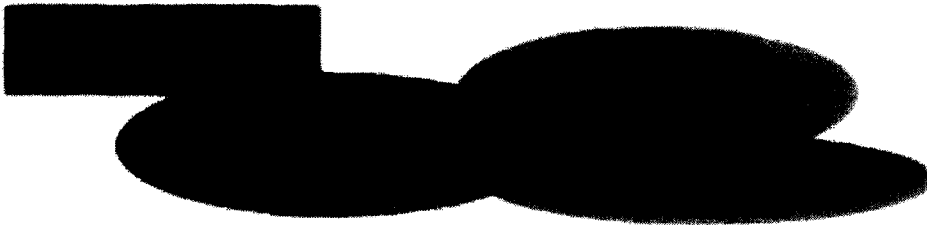
[Return to PC Phone Manager](#)



Call Return

Calls back the last number that called you even if you don't know the number or who called. And if the line is busy, Call Return keeps trying for up to 30 minutes. When the line is free, Call Return signals you with a special ring and places the call for you. You can place or receive other calls while Call Return is at work. And, you can have Call Return calling back more than one number at a time. Call Return helps you control your telephone by improving the management of incoming and outgoing calls and minimizing the risk of missing calls.

[Return to PC Phone Manager](#)



Download

TS Intercom

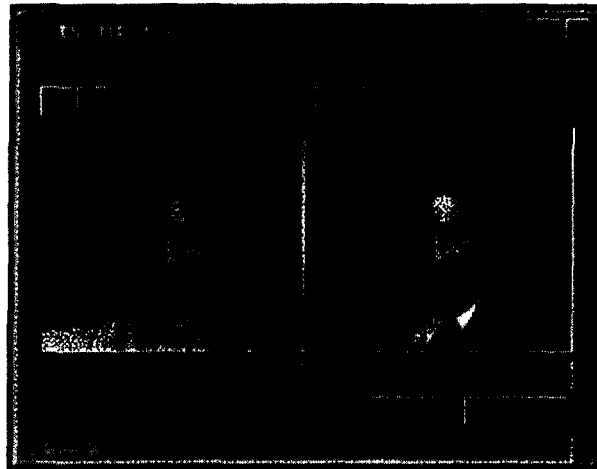
Download TS Intercom 1.00E (release version) now!



TS Intercom

TS INTERCOM is the first of a family of telephony products from **Telescope** which enables you to communicate freely with others over the Internet.

ts intercomTM
internet telephone software



Any 486 or faster PC running Microsoft Windows 95, Windows 3.x or Windows NT 3.5x (coming soon), a SoundBlaster compatible sound card and a 14.4 kb/second or faster Internet connection enables you and another party to use TS INTERCOM to talk to each other, to see each other, and to share information with each other.

TS INTERCOM lets you talk to people for as long as you want, anywhere you want, toll free.

While you're talking to another party, you can show and view graphics files of yourself or anything else. You can also send each other any computer file -- a spreadsheet document from

work, digital pictures of a new baby in the family, the latest game demo -- anything.

You and anyone you wish to talk to can download TS INTERCOM at no charge.



Specifications

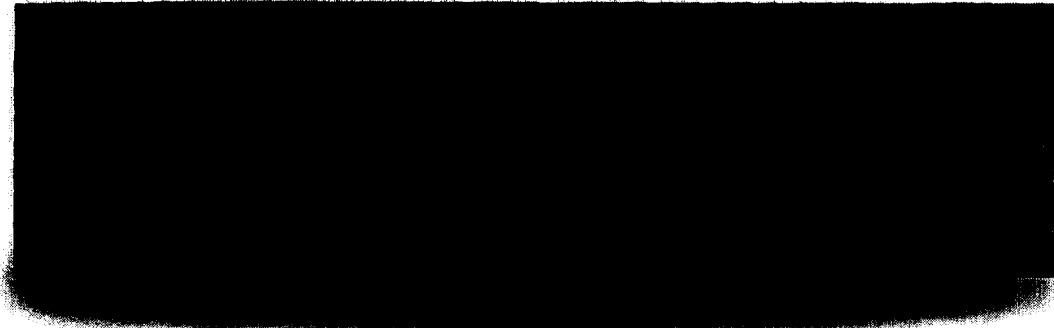
Features (what can it do?)

- ☐ Direct connection (point-to-point) between parties for the best possible transmission quality
- ☐ Easy to use -- connect to people directly by entering their e-mail addresses(ie: `jsmith@acme.com`) -- no more fumbling with awkward IRC chat channels
- ☐ TS INTERCOM's unique Viewport lets you display a visual signature, photograph, or any graphic file to whoever you're talking to, while you're talking
- ☐ Send and receive computer files and e-mail right from TS INTERCOM while talking to someone on-line
- ☐ Fully adjustable sound and microphone levels ensure the clearest possible conversations
- ☐ Freely distributable -- send a copy to whoever you want to talk to and start talking immediately -- no waiting for registration codes
- ☐ Convenient phone book feature helps you keep track of other TS INTERCOM parties
- ☐ Works on Local Area Networks over TCP/IP for an enterprise wide teleconferencing solution

Requirements (what you need)

- ☐ TS INTERCOM requires a 33 MHz 486-based personal computer with 4 megabytes of RAM (Pentium 75 MHz system or better with 8 megabytes of RAM recommended)
- ☐ Microsoft Windows 3.1, Windows for Workgroups 3.11, Windows 95 or Windows NT 3.5x (NT version coming soon)
- ☐ 8-bit color VGA display (640 x 480 with 256 colors)
- ☐ MPC II compliant audio card (SoundBlaster or compatible)
- ☐ v.32bis 14.4 kb/second modem (v.34bis 28.8 kb/second modem recommended) or LAN
- ☐ Microphone and speakers for your audio card
- ☐ Dial-up or direct connect Internet access with Trumpet or Microsoft Winsock
- ☐ Also supports Ethernet, ATM, FDDI, frame relay, ISDN, or SDMS networks running the TCP/IP protocol for LAN support

TM



DigiPhone is the de facto voice connection software for the Internet. It's fully compatible with the world's most popular sound cards (check out all these sound cards!), and it was structured to provide a direct connection between parties, without the assistance of an IRC server. The flow of information then travels freely over the Internet, following the most direct route. Listen closely... people are talking about DigiPhone.

Have a look around. The digital revolution is just beginning.

Registered Users:

Download Our Windows 95 DigiPhone v1.03!

Posted 5/3/96: DigiPhone v1.03.

Receive a 2nd License Number TODAY!

Read all about Deluxe shipping with Netscape Navigator 2.0

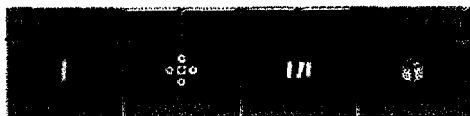
"Most closely emulates...a normal phone call," according to USA Today. Read what others have to say!

To order DigiPhone, click on the "Place Order" button on the button bar, or visit your local DigiPhone retailer.

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Special Note: Third Planet Publishing, publisher of the DigiPhone software program currently has opportunities available. Please inquire.



----- White Pine Software's Enhanced CU-SeeMe -----

») snapshot

Enhanced CU-SeeMe is really an Internet videoconferencing program that requires an ISDN connection. But over an ISDN line, its sound quality for voice transmissions is among the best.

») review

Enhanced CU-SeeMe is more than a Web phone for PCs--it's an Internet videoconferencing program. Now being developed as a commercial product by White Pine Software (it originated at Cornell University), Enhanced CU-SeeMe has audio capabilities and phonelike features on par with the best.

Over an ISDN connection, Enhanced CU-SeeMe's sound quality is loud, clear, and strong--easily among the best we heard. The biggest problem with the alpha version we tested was that it wouldn't work over a standard 14.4-kbps or 28.8-kbps modem connection even though White Pine does state that the product will support connections over these speeds.

go to ») screen shot

Enhanced CU-SeeMe is really three applications in one:

The CU-SeeMe app itself handles the connection across the Internet. You can either enter the IP address of the person you're calling or select it from the phone book. Along with half-duplex (one-way) audio communication, you can send and receive video and use text chat capabilities.

The Listener feature simply alerts you to calls and provides status information, reminding you who you're talking to and such.

White Pine Board raises basic whiteboard functionality to the level of a drawing program. In conjunction with Enhanced CU-SeeMe's multicasting capabilities, you can type, draw, or even grab images on the desktop and show them to your videoconferencing group. Unfortunately, we weren't able to broadcast whiteboard images at all in our tests.

If you're planning to make a Web phone connection via modem, Enhanced CU-SeeMe is out of the question unless White Pine Software adds modem support to the final version. But if you're wired for ISDN, this product will likely serve as a superior Web phone--there will even be a Mac version soon, which White Pine says will connect with the PC version.

next review



facts

Enhanced CU-SeeMe

List price: \$99

Company: White Pine Software; 603/886-9050

URL: <http://goliath.wpine.com/cu-seeme.html>

Available: now



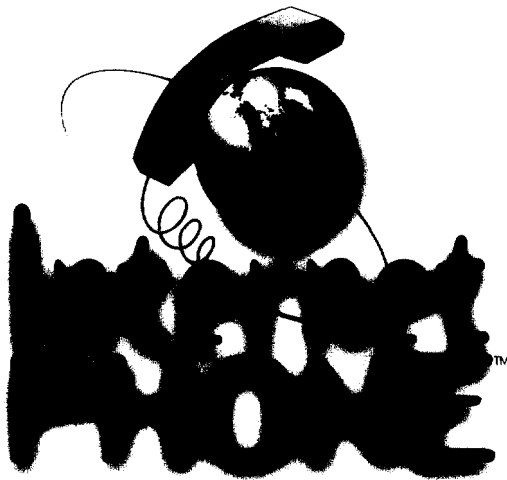
.....
Talk for free over the Internet!
.....

DOWNLOAD YOUR FREE DEMO COPY FROM <http://www.vocaltec.com>

HOME PC
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JUNE 1995



NEW VERSION
3.0
FULL-DUPLEX



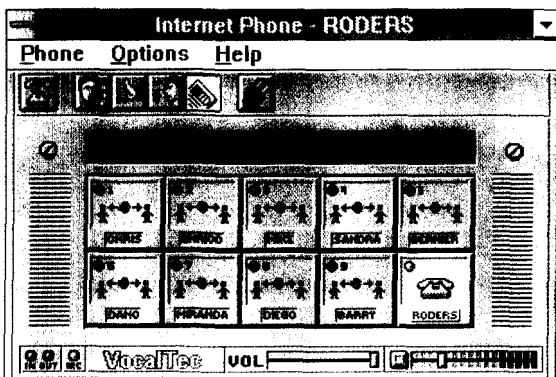
Talk FOR FREE over the Internet!

Introducing **INTERNET PHONE**, a truly revolutionary new product in software. As your passport to unlimited voice communication, **INTERNET PHONE** offers you an exciting, fun and inexpensive way to actually talk to the world. All you need to do is connect your PC to the Internet and run **INTERNET PHONE** software; with a single click of the mouse, you can converse indefinitely with people from countries and cultures around the globe. Say so long to costly phone bills, "text chatting" and e-mail, because

VocalTec's INTERNET PHONE is the very first product to let you literally hear what everyone else has to say—and respond in a real-time "phone" conversation. It will expand your horizons beyond even your wildest imagination.

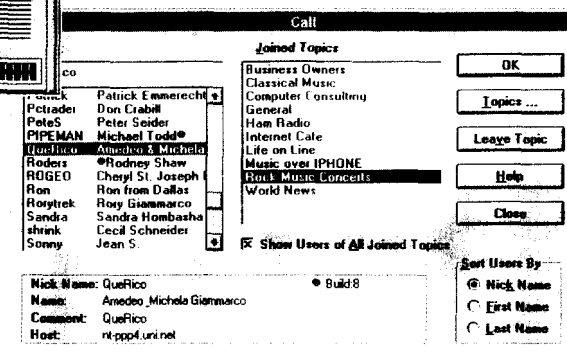
For your convenience, **INTERNET PHONE** includes an on-line address book to help you locate the people you want to talk with and the conversations that most fascinate you. For private talk, **INTERNET PHONE** enables you to talk up close and personal on "hidden" channels for as long as you wish.

Ideal for everyone—from businesses to hobbyists, students to surfers—**INTERNET PHONE** is changing how the world interacts by inviting participants to join in on the very latest and hottest form of global communication. You'll discover a whole new way to connect—and in an extremely cost-effective manner. With **INTERNET PHONE**, long distance just got a whole lot shorter.



INTERNET PHONE's on-line address book enables you to easily locate the people you want to talk with over the Internet and contains topics of conversation that you may join, or create a new topic of conversation for others to join. You can also open hidden private topics and invite your immediate family, friends or business associates to meet you there.

◀ **INTERNET PHONE's** friendly graphical user interface makes conversation a snap. There are ten Quick-Dial buttons that store the names of people whom you call the most. A Quick Tour and Pop-Up Tips are included to help you start your conversation immediately.



FROM THE PRESS...

"The big advantage of **INTERNET PHONE** is circumventing long distance carriers, which translates into major cost savings."

—COMMUNICATION WEEK
February 20, 1995

"**INTERNET PHONE** opens up your PC to an exciting new application for using the Internet as a telephone... **Internet Phone** is an inexpensive way to send your voice over the Internet."

—PC MAGAZINE
May 16, 1995

INTERNET PHONE END-USERS SAID....

"I did have a chance to use your program a few times, and I think it's spectacular. The ease of setup and the continued ease of use make it a favorite of mine."

—Mark R. Keil
rebel@horde.com

"**INTERNET PHONE** has been fun, educational and extremely beneficial...I have reached the world. It's fun to talk with new people in different part of the world and learn about their lives and cultures."

—Dan Bartley
dbartley@epix.net

"The **INTERNET PHONE** is a great way to meet new friends from all over the world using the Internet. In many ways it has helped move us all closer to being a virtual community and has created a new medium for people to communicate."

—Jeff Pulver
jeff@pulver.com

System Requirements

486 IBM compatible PC with 8MB RAM (recommended) • Windows 3.1 or Windows 95 • Winsock 1.1 compatible Internet TCP/IP connection (Minimum: 14,400bps SLIP or PPP) • Windows compatible sound card* microphone and speaker

*Full duplex version requires a full duplex Windows compatible sound card. For more information check our World Wide Web site.



VOCALTEC INC. • 157 Veterans Dr. • Northvale, NJ 07647

Tel: 201-768-9400 • Fax: 201-768-8893 • E-Mail: info@vocaltec.com • World Wide Web: http://www.vocaltec.com

don't try this
at home

Free Long Distance

by B. A. Nilsson

Making long-distance phone calls is fun, of course, but it's also expensive. All those long-distance charges seem to add up the first time you dial a long-distance number that's more than an easy drive away. So how do you keep in touch with your far-away friends?

The expense of long-distance calling was one of the early problems with getting Internet access. But now that the Net's popularity has inspired Internet service providers (ISPs) to spring up everywhere, there is probably one that's just a local call away. Wouldn't it be great to use that local call for your long-distance conversations?

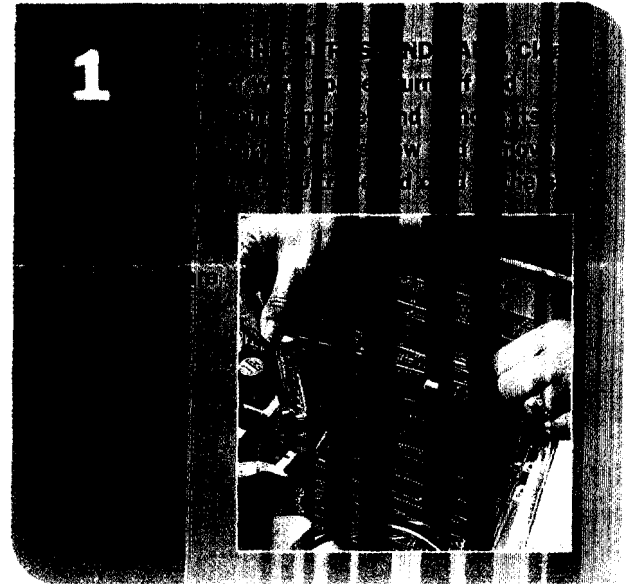
You can get virtually free long-distance calling. Don't worry—it's perfectly legal.

Internet phone programs are still not standardized, so different products take different routes to give you calling facility. VocalTec's Internet

Phone is the most versatile of those I tested. This project shows you how to install and use the program.

Beat the System We're prisoners of the telephone companies that handle our long-distance service. Free enterprise sure hasn't given us any free calls. However, standard phone service typically includes unlimited local calling as part of the basic monthly fee. And because the online service provider business is lucrative enough with subscription fees, companies such as America Online, CompuServe, and various ISPs have opened access points in towns all over the country.

Internet users already have a real-time chat system through Internet Relay Chat (IRC), but it's only as fast as your typing speed. Internet Phone goes a step further and adds a proprietary compression algorithm to shrink the voice data into something that can move



over a 14,400-bit-per-second modem connection, get decompressed at the other end and still sound intelligible.

Complex Duplex The newest release of Internet Phone lets you carry on full-duplex conversations, which means that you and the other caller

can talk at the same time. However, you need a full-duplex-capable sound card to get this capability.

That's where Advanced Gravis' UltraSound Plug & Play goes to work. It offers full-duplexing and easy installation. Under Windows 95, you place the card in a

Do

- Make sure your computer is unplugged before installing the sound card.
- Use at least a 14,400-bit-per-second modem.
- Register Internet Phone to get unlimited call time.

Don't

- Force the sound card into a slot.
- Turn the microphone volume too high.
- Be too rude to annoying callers.

Difficulty: Rating

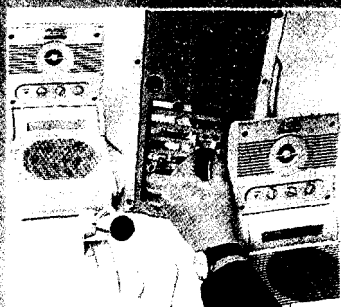
Everything You Need for This Project

- ✓ Internet Phone: \$99 estimated retail, \$69 to purchase and register online; distributed by VocalTec; (201) 768-9400; <http://www.vocaltec.com>.
- ✓ UltraSound Plug & Play (includes sound card, microphone, and demo version of Internet Phone): \$149 estimated retail; from Advanced Gravis; (604) 431-5020; <http://www.gravis.com>.
- ✓ Headphones or speakers. Recommended: CAT-132 Headset; \$69.95; from Plantronics; (800) 544-4660, (408) 426-5858.
- ✓ PC running Windows 95.
- ✓ Internet account.
- ✓ Phillips-head screwdriver.

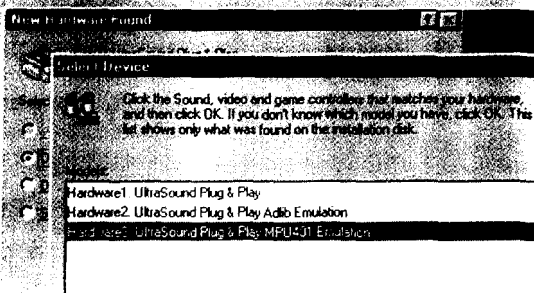


2**CONNECT THE MICROPHONE AND SPEAKERS.**

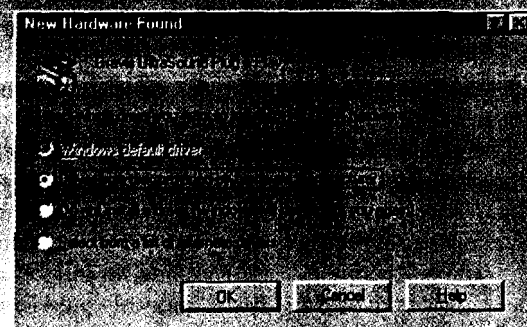
Position the speakers on your desktop and run the input cable to the back of your computer. If the speakers are amplified (they are if you had to put batteries in them or plug in an AC adapter), push the plug into the output jack nearest the UltraSound's joystick port. If they're not amplified, use the middle of the three jacks. To assemble the microphone, push the stem into the plastic stand and place it near your keyboard, angled toward your mouth. Run the cable to the back of your computer and push the plug into the jack near the top of the UltraSound card.

**4****CONFIGURE THE OTHER FEATURES.**

You'll see another New Hardware Found window, this time advising that a Standard IDE/ESDI Hard Disk Controller (the sound card's CD-ROM interface) has been located. Choose the Windows default driver and click on OK. The next New Hardware Found window is for the Gameport Joystick; again, choose the Windows default driver and click on OK. With the Win 95 Drivers disk still in A:, select "Driver from disk provided by hardware manufacturer" and click on OK. Confirm the disk's location. In the next Select Device screen, choose "Hardware2. UltraSound Plug & Play Adlib Emulation"; click on OK. The New Hardware Found window appears once more; repeat the process, choosing "Hardware3. UltraSound Plug & Play MPU401 Emulation." Click on OK. Windows then asks if it can restart your machine to finish the setup. Click on Yes.

**3****INSTALL THE ULTRASOUND SOFTWARE.**

Turn on your computer. As Windows 95 starts up, it will display New Hardware Found: Gravis UltraSound Plug & Play. The message box asks you to select a driver for the hardware; click on the selection that reads "Driver from disk provided by hardware manufacturer" and click on OK. Place the floppy disk labeled "Win 95 Drivers" in drive A: and click on OK at the next window. The next window is headed Select Device; it asks you to select a model name that matches your hardware. Select the first item in the list, "Hardware1. UltraSound Plug & Play," and click on OK.



free slot and Windows will find it. Feed a few installation disks to your floppy drive when prompted, and the card is automatically configured. No jumpers to mess with. You also get a microphone that is designed to sit on your desk just behind your keyboard. All you need to supply is a pair of speakers.

The UltraSound CD contains a generous amount of software, including a fully functional demo version of Internet Phone. You're limited to 60 seconds of call time until you register the program, which costs \$69 and can be done online with a credit card at Vocaltec's Web site (<http://www.vocaltec.com>).

This site also keeps a current list of cards with full-duplex capability,

so check that list before you go shopping. For the convenience of taking Internet Phone on the road, though, I found I was willing to settle for half-duplex service. Gateway 2000's new Solo line of notebook computers includes a built-in microphone and speakers as well as a proprietary sound-processing system. I had a clear, if half-duplex, conversation that sounded just fine at both ends. For optimum performance with any setup, I recommend Plantronics'

CAT-132 Headset, which combines earphone and mike in a slick headset.

Call Me International

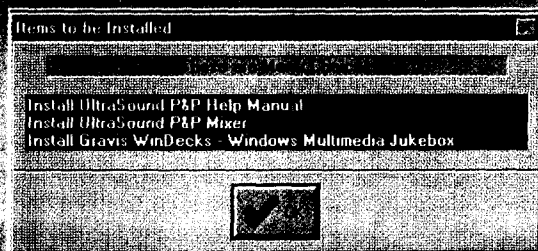
Unlike most IRC channels, Internet Phone allows only two people to have a conversation at once, but it is a private call. If you

Computer ONLINE

Free long distance? Computer Life presents a developer of Internet Phone in the AOL Rotunda with contributor B. A. Nilsson and technical editor V. Long, Wednesday, April 24, from 9 to 10 p.m., eastern time.

5

5. ADD THE SOUND SOFTWARE. When prompted, insert the disk labeled Windows Sound & Speech and click on the icon that shows the sound of a bell. Click on Next, then click on the folder called Program, and then confirm the program icon group and click on Next again. You'll be shown the UltraSound README file. Close Notepad when you're finished reading it. When asked if you want to install the sound and the speech files, click on Yes. When the files have been added, click on the UltraSound Plug & Play. When you're prompted to click on OK, click on OK. You're asked to choose the items to install (Help Manual, Mixer, and Jukebox); click on OK to choose all three. Confirm the installation directory and verify the path to your Windows directory by clicking on OK as each item is selected. When the installation is finished, you'll be prompted to remove the disk from drive A and click on OK to return to the computer.



don't know anyone else who's online, just browse the directory of callers. Everyone is supposed to provide a nickname and a helpful comment to inspire others in making their selections.

However, remember that as long as you keep the Auto Accept Calls option on, your electronic phone will ring from time to time. If you get unwanted attention, hang up (not everyone will want to talk about the weather).

Although I picked a few callers at random, I was surprised at how many people called me and how many parts of the globe I covered. While snow fell in my upstate New York neighborhood, a caller near Stockholm complained that

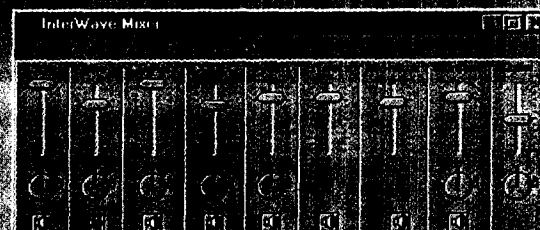
there wasn't enough snow. A fellow in Florida commented on the heat. I spoke to a group of hobbyists in Holland and helped a woman in Boston set her sound levels.

You can leave Internet Phone running while you cruise around with a Web browser, but don't do what I did and leave it on late at night: It's much too startling to be sitting alone at your computer and suddenly hear a voice come through your speakers saying, "Hey, Byron, are you there?"

B. A. Nilsson lives in a rural town in New York state where practically nothing is a local call, so if you see his name on the Internet Phone roster some night, give him a shout.

6

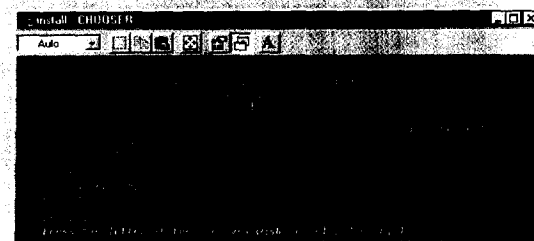
6. TEST THE SOUND CARD. Make sure your microphone and speakers are working. Click on the Start button, choose Programs, and click on the folder called UltraSound Plug & Play. Bring up the InterWave Mixer. You'll find the microphone input near the left side of the mixer screen, labeled Mic at the top of a vertical slide switch. By default it's not activated, so click on the speaker icon below the slider (it has a red X through it) to turn on the input. The red X disappears. Adjust the slider so you don't get feedback. When the settings are correct, you should hear your own voice modestly



amplified when you speak into the microphone. But don't fuss too much—you'll customize the settings for Internet Phone in Step 8.

7

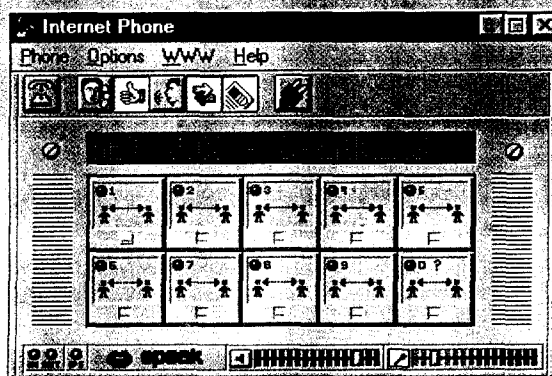
7. INSTALL INTERNET PHONE. Put the UltraSound CD into your drive. In a moment a DOS box will pop up that asks for the letter of your CD-ROM drive. Type in the letter and confirm your selection. From the main menu, select E for Internet Applications. At the next menu, select D for Internet Phone. Confirm C:\IPHONE as your destination directory by clicking on OK. When it finishes copying files, click on OK. Close the DOS box menus by choosing P (for previous menu) and X to Exit; then close the window by clicking in the upper-right corner. Double-click on the Internet Phone icon to start the program and answer the user info questions it asks. Remember that this is the test-drive version, which limits you to 60 seconds per call. When you register you'll get a number to disable that restriction.



8 CONFIGURE YOUR SOUND LEVELS. Click on the Start button, choose Programs,

and click on the Internet Phone folder.

Click on the icon for Internet Phone. Once in the program, you'll see the volume controls in the lower-right corner: two slider controls, each with a test button to the left of it. Click on the speaker button. You should hear a brief recorded announcement. Adjust the volume by clicking and dragging the slider bar. Click on the microphone button, and speak into the microphone. Use the adjacent slider to adjust how loud your voice needs to be before the mike kicks in—you don't want background noise to set it off. When your voice is loud enough, the Windows message changes from SET VOX—IDLE to SET VOX—SPEAKING. Click on the mike button again when you're done.



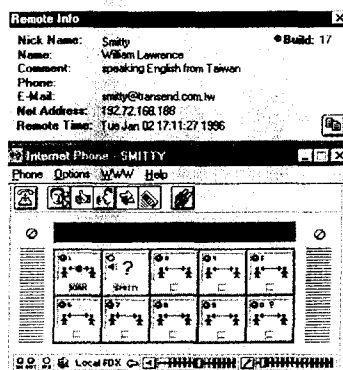
10 PLACE A CALL. Pull down the Phone menu and select Call. You'll see a list of the people currently online with Internet

Phone. To call someone, highlight the person's name and click on OK. Keep in mind that many people will

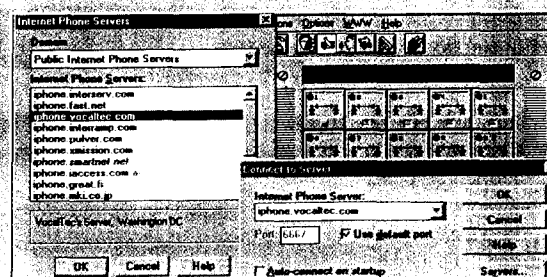
already be talking to others, so you might get a few busy signals.

Pull down the Options menu and make sure that Auto Accept Calls is checked so you can receive incoming calls. To get information

about the person you're talking to, pull down Options menu and select View Info.



9 CONNECT TO THE INTERNET PHONE SERVER. Dial up the Internet. If you have an account with a local service provider, use your favorite access program. I configured the Windows 95 Dial-Up Networking application to make my connection, but you can also go through America Online, CompuServe, the Microsoft Network, or Netcom with little or no modification (see "At Your Service," below). Once you're connected, pull down the Phone menu on the Internet Phone window and select Connect to Server. Click on the Servers button in the next window, and select your target from the list that pops up. I've had the best luck using Iphone.vocaltec.com. Click on OK in the server list window and then in the Connect to Server window.



At Your Service

Internet Phone requires only an Internet connection with proper Windows sockets for making calls. Most of my tests were done using the dial-up networking facility that comes with Windows 95, which includes its own WINSOCK.DLL file in the C:\WINDOWS directory. For Windows 3.x users, I tested with a Trumpet Winsock installation with equally good results.

With Netcom, which puts a WINSOCK.DLL in its own directory, Internet Phone still worked well. However, for CompuServe's WinCim, you need to use WinCim Version 2 or higher and you must

install its WINSOCK.DLL in the C:\WINDOWS directory in place of whatever may already be there (back up the earlier version). In the Session Settings window, where you enter phone numbers and modem information, make sure the box Use Winsock is checked.

America Online (AOL) doesn't ordinarily use a WINSOCK.DLL, but for Internet Phone you'll need to download a proprietary version from AOL (press Ctrl-K and enter WINSOCK to get to Winsock Central) and install it in the C:\WINDOWS directory before running Internet Phone. —B. N.